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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,115	12/20/2001	Donald E. Ackley	BVTP-P01-029	9722

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EXAMINER

NGUYEN, TUAN N

ART UNIT PAPER NUMBER

2828

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/027,115	Applicant(s) ACKLEY, DONALD E.	
	Examiner Tuan N. Nguyen	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-25 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/06/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or non-obviousness.

4. Claims 1-13, 15-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (US 4812002) in view of Lin et al. (US 5591139)

With respect to claims 1,2, Kato et al. '002 shows an optical device comprising an array of optical fibers inserted into the plurality of micro- channel guide (ABSTRACT) (Col 3: 20-45) (Fig 6a, 7a, 8), and a plurality of optical components aligned and connected with the plurality of fibers (Col 4: 2-11). The claim further require that the channels is of needle shape. Lin et al. '139 discloses the use of micro needle having micro channel that can use as microdetectors or microheaters (ABSTRACT). It would have been obvious to one of ordinary skill in the art to

provide Kato et al. '002 with the micro-needle as channel guide as taught or suggested by Lin et al. '139, for the benefit of extending the projections for detection.

With respect to claims 3, 7 the claim requires the optical components are vertical cavity surface emitting lasers. Kato et al. 002 discloses the above and further discloses the optical device comprises an InGaAsP/InP semiconductor laser (Col 5: 55-60). It has been held to be within the general skill of a worker in the art to select a known material for the intended use as a matter of design choice, in this case the semiconductor type or VCSEL. *In re Leshin*, 125 USPQ 416. Since claim 7 recites the same or identical elements/limitations it is inherent to use patents ('002) and ('139) to recite the method of forming an optical including a VCSEL array and a fiber array.

With respect to claims 4-6, Kato et al. '002 discloses the optical components are photodetectors or sensing elements (Col 4: 65-68).

With respect to claims 8, 9 Kato '002 further shows that the channels are tapered, and the tapered channel is narrower than the diameter of the fibers (Fig 2: 3, 4,6,8) (Fig 6b: 32, 29)(ABSTRACT) (Col 1: 50-60).

With respect to claims 10, 16 the claim requires the needles are fabricated using photolithography and/or laser drilling. Kato '002 discloses the channel guide made of metal (Col 8: 10) and Lin et al. '139 discloses various means in making fabricating micro-needle made of metal (Col 8: 55-65).

With respect to claims 11-12, Kato '002 discloses the fibers fixed inside the channels with epoxy or silicon with accuracy to about 1 micron (Col 4: 40-46).

With respect to claim 16, Kato '002 discloses a glass film deposited on the surfaces of the guide channel (Col 6; 30-35).

With respect to claims 17-20 Kato '002 discloses the fixing of fiber and channel such as epoxy, silicon, metal (Col 6: 10-45) and epoxy spherical lens (Col 3: 19-25)(Col 7: 55-68). It has been held to be within the general skill of a worker in the art to select a known material for the intended use as a matter of design choice, in this case epoxy, silicon or the like. *In re Leshin*, 125 USPQ

With respect to claims 21-25 Kato '002 discloses the detector that coated with fluorine solution that suitable for various sensing either outside of inside of needles tips (Col 4: 65-68) (Col 5: 15-20). It has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art, in this case the type of sensitive dyes being use or matrix being doped. *In re Karlson*, 136 USPQ 184.

Allowable Subject Matter

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The references of the record fail to teach or suggest:

Claim 14:

The needles has dimensions of about 125 micron exit hole at the narrower end, about 125 micron length, about 175-200 micron entrance hole at the wider end, and about 250 micron between centers.

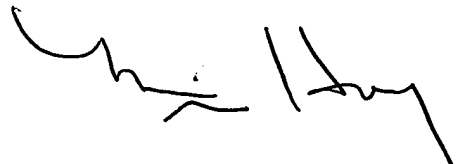

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Tuan N. Nguyen



MIN SUN CHAE
PRIMARY EXAMINER